

CLAIMS

1. An electric double layered capacitor comprising:

a capacitor cell including a bag-shaped soft case in which a plurality of positive electrodes and negative electrodes, and a separator are received and laminated together with an electrolytic solution;

a hard case for thermal radiation in which a plurality of the capacitor cells are received and laminated to be closely contacted with each other; and

a thermal conductor interposed between the hard case and the capacitor cells.

2. The electric double layered capacitor as defined in claim 1, wherein:

a belt-shaped radiating fin is disposed in a rim of the soft case so as to be extended therefrom; and

a heat transfer frame is placed in a periphery of the soft case as the thermal conductor, as well as sandwiches the radiating fin.

3. The electric double layered capacitor as defined in claim 2, wherein:

the heat transfer frame is made of an elastic resin and thereby the neighboring heat transfer frames are compressed with each other to be closely contacted.

4. The electric double layered capacitor as defined in claim 3, wherein:

the heat transfer frame is made by mixing with the elastic resin metal powder with a high thermal conductivity such as aluminum.

5. The electric double layered capacitor as defined in claim 1, wherein:

a belt-shaped radiating fin is disposed in a rim of the soft case so as to be extended therefrom; and

a caulking compound is filled between the soft case and the radiating fin to wrap the radiating fin as the thermal conductor.

6. An electric double layered capacitor comprising:

a bag-shaped soft case in which a plurality of positive electrodes and negative electrodes, and a separator are received and laminated together with an electrolytic solution;

a capacitor cell provided with the soft case;

a capacitor module to receive and laminate a plurality of the capacitor cells in a hard case for thermal radiation;

a control box receiving a control substrate to control charge and discharge of the capacitor cells; and

a capacitor unit formed of connecting the control box to the capacitor module, wherein:

the hard case is exposed to an outside of the control box.

7. The electric double layered capacitor as defined in claim 6, wherein:

a plurality of the capacitor modules are arranged in parallel to the one control box.

8. The electric double layered capacitor as defined in claim 7, further comprising:

a bus bar disposed in the control box to extend over the respective

capacitor modules, wherein:

the capacitor cells received in each capacitor module are connected in parallel by the bus bar; and

the bus bar is connected to the control substrate.

9. The electric double layered capacitor as defined in claim 8, wherein:

each of the capacitor cells arranged so as to be laminated in the capacitor module is connected in series each other by the bus bar.

10. The electric double layered capacitor as defined in claim 8, wherein:

the capacitor cells include each terminal strip to connect the positive electrodes and negative electrodes to the bus bar; and

the each terminal strip is curved in the laminated direction of the capacitor cells to absorb a displacement of the capacitor cells to the bus bar.